

What is claimed is:

1. A method of inputting information in a virtual space, comprising :  
detecting motion information of a finger in space ;  
interpreting the motion information detected and determining the location of the finger; and  
inputting a character corresponding to the location of the finger that is determined and applying a force to the finger .
2. The method of claim 1, wherein the motion information is communicated by wire or wirelessly.
3. A virtual space keyboard system comprising:  
a sensor unit that is attached to a first predetermined part of a finger which senses motion information of the finger;  
an information input processing unit which interprets modulated data of the motion information of the finger, displays a character corresponding to a location of the finger with respect to the virtual space keyboard in space, determines the finger corresponding to the displayed character, and generates an input completion signal having an identifier of the determined finger;  
a processor unit which converts the motion information detected by the sensor unit into converted data, modulates the converted data, sends the modulated data to the information input processing unit, and receives the input completion signal identifying the finger corresponding to the character input from the information input processing unit; and  
a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger corresponding to the input completion signal if the input completion signal is received.
4. The virtual space keyboard system of claim 3, wherein the processor unit comprises:  
an analog-to-digital converting unit which converts the motion information detected by the sensing unit into a digital signal;



an information input processing unit which displays a character based on received location information of the finger with respect to the virtual space keyboard in space and generates an input completion signal;

a processor unit which determines the location information of the finger based on the motion information detected by the sensor unit, sends the location information to the information input processing unit, and receives the input completion signal corresponding to the character input from the information input processing unit ; and

a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger corresponding to the input completion signal if the input completion signal is received.

13. The virtual space keyboard system of claim 12, wherein the force generating unit is a device generating vibration or a small electric shock.

14. The virtual space keyboard system of claim 12, wherein the sensor unit senses acceleration information of the finger and/or angle speed information of the finger.

15. The virtual space keyboard system of claim 12, wherein the processor unit is attached to a back of a hand or on a wrist.

16. The virtual space keyboard system of claim 12, wherein the sensor unit and the force generating unit are located at the end of the finger.

17. The virtual space keyboard system of claim 16, wherein the sensor unit and the force generating unit are adjacent to each other.

18. The virtual space keyboard system of claim 12, wherein the motion information, and/or the location information, and/or the input completion signal are/is communicated by wire or wirelessly.

19. The virtual space keyboard system of claim 12, wherein the information input processing unit is a computer.

20. A virtual space keyboard system comprising:  
a sensor unit that is attached to a first predetermined part of a finger which senses motion information of the finger;  
an information input processing unit which displays a character based on received location information of the finger with respect to the virtual space keyboard in space;  
a processor unit which determines the location information of the finger based on the motion information detected by the sensor unit, and sends the location information to the information input processing unit; and  
a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger in response to the motion information of the finger.
21. The virtual space keyboard system of claim 20, wherein the force generating unit is a device for generating vibration or a small electric shock.
22. The virtual space keyboard system of claim 20, wherein the sensor unit senses acceleration information of the finger and/or angle speed information of the finger.
23. The virtual space keyboard system of claim 20, wherein the processor unit is attached to a back of a hand or on a wrist.
24. The virtual space keyboard system of claim 20, wherein the sensor unit and the force generating unit are located at the end of each finger.
25. The virtual space keyboard system of claim 24, wherein the sensor unit and the force generating unit are adjacent to each other.
26. The virtual space keyboard system of claim 20, wherein the motion information and/or the location information are/is communicated by wire or wirelessly.
27. The virtual space keyboard system of claim 20, wherein the information input processing unit is a computer.

28. A virtual space keyboard system to input information to a computer, the virtual space keyboard system comprising:

a sensor unit that is attached to a first predetermined part of a finger which senses motion of the finger;

a processor unit which determines location information of the finger with respect to the virtual space keyboard in space based on the motion information detected by the sensor unit, sends the location information to the computer, and receives the input completion signal corresponding to the input information from the computer; and

a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger corresponding to the input completion signal if the input completion signal is received.

29. A virtual space keyboard system to input information to a computer, the virtual space keyboard system comprising:

a sensor unit that is attached to a first predetermined part of a finger which senses motion information of the finger;

a processor unit which determines location information of the finger with respect to the virtual space keyboard in space based on the motion information detected by the sensor unit, and sends the location information to the computer; and

a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger in response to the motion information of the finger.

30. An information input device attached to a finger and/or a hand to input motion information of the finger to a processor unit, the information input device comprising:

a sensor unit to contact a first predetermined part of the finger which detects motion information of the finger and sends the motion information to the processor unit; and

a force generating unit to contact a second predetermined part of the finger which receives an input completion signal corresponding to the input motion information of the finger and generates a force to the second predetermined part of the finger if the input completion signal is received.

31. The information input device of claim 30, further comprising a cover, wherein the sensor unit is attached to the cover to be placed on the finger and the force generating unit is attached to the cover to be placed on the finger.

32. The information input device of claim 31, wherein the cover comprises a glove covering the finger and a hand to which the finger is attached.

33. A method of inputting information in a virtual space, comprising:  
detecting motion information of fingers in space;  
interpreting the motion information detected and determining locations of the fingers; and  
inputting characters corresponding to the locations of the fingers that are determined and applying a force to the fingers.

34. The method of claim 33, wherein the motion information is communicated by wire or wirelessly.

35. A virtual space keyboard system comprising:  
sensor units that are attached to first predetermined parts of fingers which sense motion of the fingers, to output motion information;  
an information input processing unit which interprets modulated data of the motion information of the fingers, displays characters corresponding to locations of the fingers with respect to the virtual space keyboard in space, determines the fingers corresponding to the displayed characters, and generates input completion signals having identifiers of the determined fingers;  
a processor unit which converts the motion information detected by the sensor units into converted data, modulates the converted data, sends the modulated data to the information input processing unit, and receives the input completion signals identifying the fingers corresponding to characters input from the information input processing unit; and  
force generating units that are attached to second predetermined parts of the fingers, wherein each force generating unit generates a force to a second

predetermined part of a one of the fingers in response to a corresponding one of the input completion signals.

36. The virtual space keyboard system of claim 35, wherein the processor unit comprises:

an analog-to-digital converting unit which converts the motion information detected by the sensing units into digital signals;

a digital board which converts the digital signals of the motion information into the converted data, and outputs the received input completion signals to the force generating units of the fingers corresponding to the characters input; and

a communications module unit which modulates the converted data representing the motion information from the digital board unit, sends the modulated data to the information input processing unit, and receives the input completion signals from the information input processing unit.

37. A virtual space keyboard system comprising:

sensor units that are attached to first predetermined parts of fingers which sense motion of the fingers, to output motion information;

an information input processing unit which displays characters based on received location information of the fingers with respect to the virtual space keyboard in space and generates input completion signals;

a processor unit which determines the location information of the fingers based on the motion information detected by the sensor units, sends the location information to the information input processing unit, and receives the input completion signals corresponding to the characters input from the information input processing unit; and

force generating units that are attached to second predetermined parts of the fingers, wherein each force generating unit generates a force to a second predetermined part of a one of the fingers in response to a corresponding one of the input completion signals.

38. A virtual space keyboard system comprising:

sensor units that are attached to first predetermined parts of fingers which sense motion of the fingers, to output motion information;

an information input processing unit which displays characters based on received location information of the fingers with respect to the virtual space keyboard in space;

a processor unit which determines the location information of the fingers based on the motion information detected by the sensor units, and sends the location information to the information input processing unit; and

force generating units that are attached to second predetermined parts of the fingers, wherein each force generating unit generates a force to a second predetermined part of a one of the fingers in response to a corresponding one of the motion information.

39. A virtual space keyboard system to input information to a computer, the virtual space keyboard system comprising:

sensor units that are attached to first predetermined parts of fingers which sense motion of the fingers, to output motion information;

a processor unit which determines the location information of the fingers with respect to the virtual space keyboard in space based on the motion information detected by the sensor units, sends the location information to the computer, and receives the input completion signals corresponding to the input information from the computer; and

force generating units that are attached to second predetermined parts of the fingers, wherein each force generating unit generates a force to a second predetermined part of a one of the fingers in response to a corresponding one of the input completion signals.

40. A virtual space keyboard system to input information to a computer, the virtual space keyboard system comprising:

sensor units that are attached to first predetermined parts of fingers which sense motion information of the fingers, to output motion information;

a processor unit which determines location information of the fingers with respect to the virtual space keyboard in space based on the motion information detected by the sensor units, and sends the location information to the computer; and

force generating units that are attached to second predetermined parts of the fingers, wherein each force generating unit generates a force to a second

predetermined part of a one of the fingers in response to a corresponding one of the motion information .

41. A processor unit to communicate motion information detected by sensor units attached to first predetermined parts of fingers to a computer and input completion signals generated by the computer to force generating units attached to second predetermined parts of the fingers, wherein the input completion signals correspond to characters input by the computer based on the motion information of the fingers, the processor unit comprising:

an analog-to-digital converting unit which converts the motion information detected by the sensing units into digital signals;

a digital board which converts the digital signals of the motion information into the converted data, and outputs the received input completion signals to the force generating units; and

a communications module unit which modulates the converted data representing the motion information from the digital board unit, sends the modulated data to the computer, and receives the input completion signals from the computer.

42. An information input device attached to fingers to input motion information of the fingers to a processor unit, the information input device comprising:

sensor units to contact first predetermined parts of the fingers which detect motion of the fingers and send motion information to the processor unit; and

force generating units to contact second predetermined parts of the fingers which receive input completion signals corresponding to the input motion information of the fingers, wherein each force generating unit generates a force to a second predetermined part of a one of the fingers in response to a corresponding one of the input completion signals.

43. The information input device of claim 40, further comprising a cover, wherein the sensor units are attached to the cover to be placed on the fingers and the force generating units are attached to the cover to be placed on the fingers.

44. The information input device of claim 41, wherein the cover comprises a glove covering the fingers and a hand to which the fingers are attached.

45. A virtual space keyboard system comprising:

a sensor unit that is attached to a first predetermined part of a finger and which senses motion information of the finger;

an information input processing unit which displays a character based on received location information of the finger with respect to the virtual space keyboard in space;

a processor unit which determines the location information of the finger based on the motion information detected by said sensor unit, sends the location information to said information input processing unit and generates an input completion signal to be output; and

a force generating unit that is attached to a second predetermined part of the finger and, which applies a force to the finger in response to the input completion signal output from said processor unit.

46. The virtual space keyboard system of claim 45 further comprising:

additional sensor units that are attached to other first predetermined parts of other fingers and which sense other motion of the other fingers, wherein

the information input processing unit additionally displays other characters based on received other location information of the other fingers with respect to the virtual space keyboard in space, and

the processor unit additionally determines the other location information of the other fingers based on the other motion information detected by said additional sensor units, sends the other location information to said information input processing unit and generates other input completion signals to be output; and

additional force generating units that are attached to other second predetermined parts of the other fingers, wherein each said additional force generating unit generates another force to a corresponding other second predetermined part of one of the other fingers in response to a received one of the other input completion signals.

47. A virtual space keyboard system to input information to a computer, the virtual space keyboard system comprising:

a sensor unit that is attached to a first predetermined part of a finger and which senses motion information of the finger;

a processor unit which determines location information of the finger with respect to the virtual space keyboard in space based on the motion information detected by said sensor unit, sends the location information to the computer and generates an input completion signal to output; and

a force generating unit that is attached to a second predetermined part of the finger, which applies a force to the finger in response to the input completion signal.

48. The virtual space keyboard system of claim 47, further comprising:

additional sensor units that are attached to other first predetermined parts of other fingers and which sense other motion information of the other fingers, wherein

the processor unit additionally determines other location information of the other fingers with respect to the virtual space keyboard in space based on the other motion information detected by said additional sensor units, sends the other location information to the computer and generates other input completion signals to be output; and

additional force generating units that are attached to other second predetermined parts of the other fingers, wherein each said additional force generating unit generates another force to a corresponding other second predetermined part of a one of the other fingers in response to a received one of the other input completion signals.